



PATENT ABSTRACTS OF JAPAN

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(57) Abstract

PURPOSE: To enable to weld material which is liable to generate cracks in good working environment by incorporating preliminary heating before welding and welding function in single device.

CONSTITUTION: To preheat the weld zone 8 of materials 7a, 7b to be welded, the distance between a working head 3 and the weld zone 8 is made large, and the focus of a condenser lens 4 is placed higher than the weld zone 8. Then, condensed beam 6 is irradiated onto the weld zone together with welding gas. Accordingly, energy density of the condensed beam 6, and the weld zone 8 is not molten but only heated. When welding preheated weld zone 8, position of the working head 3 is lowered by a distance h_2 , and the position of focus of the condenser lens 4 is placed at the position of the weld zone 8. Welding is performed by irradiating the condensed beam 6 with welding gas onto the weld zone 8 at this position.

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